

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

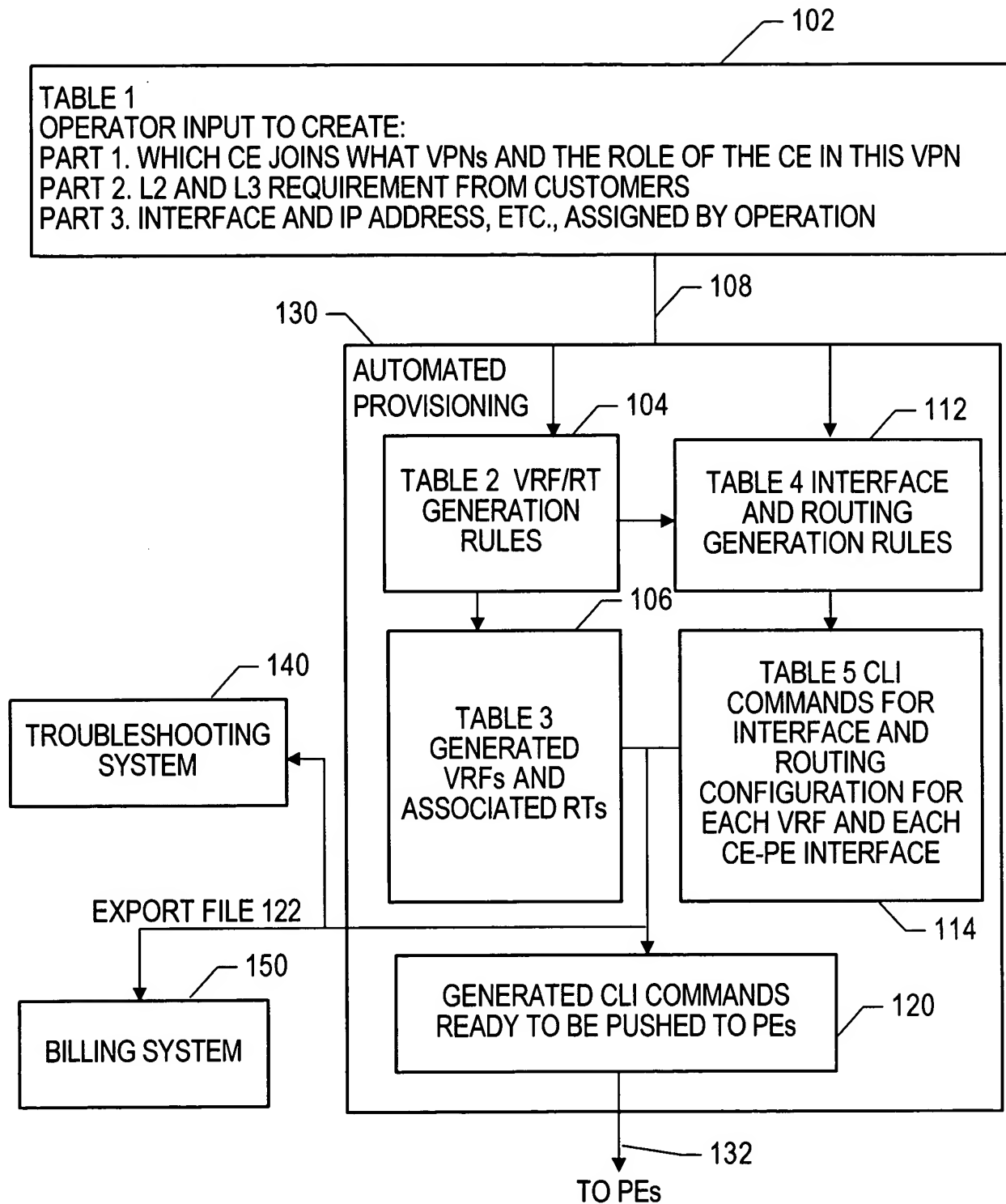


FIG. 1

EXAMPLE OF MPLS/VPN SERVICE PROVISIONING TABLE 102

	Customer A										Customer B	
	CE1	CE2	CE3	CE4	CE5	CE6	CE7	CE8	CE9			
Full Mesh												
Full Mesh												
Full Mesh												
Central Service		Server		Client				Server	Client			
H&S 2 VRFs	Spoke				Spoke	Hub_Spk	Hub_Hub		Spoke			
H&S 1 VRF												
L2 requirement Encapsulation, CRC, Clock, ATM VC, etc)	VBR2M/ 2M/32	PPP CRC 32	PPP CRC 32	FR CRC 32	PPP CRC 32	Aal5snap UBR	FR		PPP CRC 16	Spoke CRC 32	Spoke PPP CRC 32	Spoke PPP 16
L3 requirement Routing Area/AS, Area 0	Area 0		RIP	Area 0	Area 7	Static	Area 0	RIP		Area 1	RIP	Static
Location of CE	LA	SF	SF	LA	SJ	SJ	SJ	SJ	SF	LA	LA	LA
IP interface on PE	PE1 ATM4/ 4.10	PE2 POS3/0	PE2	PE1	PE3	PE3 ATM4/ 0.1	PE3 S1/0/15.0	PE3 GE2/0	PE2 POS3/1	PE1	PE1	PE1 POS3/
IP address/mask	IP address/mask can be assigned manually or automatically from IP address pools.											
Inbound QoS (profile #)							10					
Outbound QoS (profile #)							10					
MD5												
Others												

Part 1
202

Part 2
204

Part 3
206

TABLE 2: LOGICAL MAPPING OF VRF AND ASSOCIATED RTs TO VPN FOR DIFFERENT TOPOLOGIES
FM = FULL MESH HB1 = ONE VRF BASED HUB AND SPOKE HB2 = TWO VRF BASED HUB AND SPOKE
CS = CENTRAL SERVICE n = SEQUENCE NUMBER OF VPN m = SEQUENCE NUMBER OF CE

VPN TOPOLOGY	VRF (IN BOLD) AND RTs (IN ITALIC)	NOTES
FULL MESH 310	VRF_FM_n Both FM_n	One VRF on Each PE One RT per VRF
H&S TWO BASED 312	<div data-bbox="544 1434 841 1736"> VRF_HS2_HUB_Hub <i>Import HS2_n_Hub</i> </div> <div data-bbox="544 1100 841 1434"> VRF_HS2_HUB_Spoke <i>Export HS2_n_Spoke</i> </div> <div data-bbox="544 743 841 1100"> VRF_HS2_Spoke_m <i>Export HS2_n_Hub</i> <i>Export HS2_n_Spoke</i> </div>	One VRFs for each CE (even on PE) One unique RT for HUB_Hnb VRF One unique RT for HUB_Spoke VRF Two RTs for each spoke CE CE VRF on different PEs.
H&S ONE VRF BASED (WITH DEFAULT ROUTE) 314	<div data-bbox="841 1434 1101 1736"> VRF_HS1_HUB <i>Export HS1_n Spoke</i> <i>Import HS1_n_Hub</i> </div> <div data-bbox="841 1100 1101 1434"></div> <div data-bbox="841 743 1101 1100"> VRF_HS1_Spoke_m <i>Export HS1_n_Hub</i> <i>Import HS1_n_Spoke</i> </div>	One VRFs for each CE (even on PE) Two RTs for HUB VRF Two RTs for Spoke CE VRF but they are same for all CE VRF on different PEs.
CENTRAL SERVICE 316	<div data-bbox="1101 1434 1247 1736"> VRF_CS_n_Server <i>Both CS_n_Server</i> <i>Import CS_n_Server_Import</i> </div> <div data-bbox="1101 1100 1247 1434"></div> <div data-bbox="1101 743 1247 1100"> VRF_CS_n_Spoke_m <i>Export CS_n_Server_Import</i> <i>Import CS_n_Server</i> </div>	One VRF for each CE Two RTs for Server VRF Two RTs for each Spoke VRF

FIG. 3

ON PE1 440		420	422	424	426	428	430
	CE1	CE4	Both FM_1	Both FM_1	Both FM_1	Both FM_1	Both FM_1
402	Full Mesh	Both FM_1	Both FM_2	Both FM_3	Both FM_3	Both FM_3	Both FM_3
404	Full Mesh	Both FM_2	Both FM_3	Both FM_3	Both FM_3	Both FM_3	Both FM_3
406	Full Mesh	Both FM_3	Both FM_3	Both FM_3	Both FM_3	Both FM_3	Both FM_3
408	Central Service	Export CS_4_Server_Import Import CS_4_Server_Import	Export CS_4_Server_Import Import CS_4_Server_Import	Export CS_4_Server_Import Import CS_4_Server_Import	Export CS_4_Server_Import Import CS_4_Server_Import	Export CS_4_Server_Import Import CS_4_Server_Import	Export CS_4_Server_Import Import CS_4_Server_Import
410	H&S 2 VRFs	Export HS2_5_Hub Import HS2_5_Spoke	Export HS2_5_Hub Import HS2_5_Spoke	Export HS2_5_Hub Import HS2_5_Spoke	Export HS2_5_Hub Import HS2_5_Spoke	Export HS2_5_Hub Import HS2_5_Spoke	Export HS2_5_Hub Import HS2_5_Spoke
412	H&S 1 VRF	Export HS2_5_Hub Import HS2_5_Spoke	Export HS2_5_Hub Import HS2_5_Spoke	Export HS2_5_Hub Import HS2_5_Spoke	Export HS2_5_Hub Import HS2_5_Spoke	Export HS2_5_Hub Import HS2_5_Spoke	Export HS2_5_Hub Import HS2_5_Spoke
VRF on PE1 414	VRF_1	VRF_2	VRF_3	VRF_4	VRF_4	VRF_4	VRF_4

ON PE2 450

	CE2	CE3	CE9	Both FM_1	Both FM_3	Both FM_3	Both FM_3
Full Mesh	Both FM_1	Both FM_1	Both FM_1	Both FM_1	Both FM_1	Both FM_1	Both FM_1
Full Mesh	Both FM_2	Both FM_2	Both FM_2	Both FM_2	Both FM_2	Both FM_2	Both FM_2
Full Mesh	Both FM_3	Both FM_3	Both FM_3	Both FM_3	Both FM_3	Both FM_3	Both FM_3
Central Service	Both CS_4_Server_Import CS_4_Server_Import	Both CS_4_Server_Import CS_4_Server_Import	Both CS_4_Server_Import CS_4_Server_Import	Both CS_4_Server_Import CS_4_Server_Import	Both CS_4_Server_Import CS_4_Server_Import	Both CS_4_Server_Import CS_4_Server_Import	Both CS_4_Server_Import CS_4_Server_Import
H&S 2 VRFs	Export HS1_6_Spoke Import HS1_6_Hub	Export HS1_6_Spoke Import HS1_6_Hub	Export HS1_6_Spoke Import HS1_6_Hub	Export HS1_6_Spoke Import HS1_6_Hub	Export HS1_6_Spoke Import HS1_6_Hub	Export HS1_6_Spoke Import HS1_6_Hub	Export HS1_6_Spoke Import HS1_6_Hub
H&S 1 VRF	Export HS1_6_Spoke Import HS1_6_Hub	Export HS1_6_Spoke Import HS1_6_Hub	Export HS1_6_Spoke Import HS1_6_Hub	Export HS1_6_Spoke Import HS1_6_Hub	Export HS1_6_Spoke Import HS1_6_Hub	Export HS1_6_Spoke Import HS1_6_Hub	Export HS1_6_Spoke Import HS1_6_Hub
VRF on PE2	VRF_1	VRF_2	VRF_3	VRF_4	VRF_4	VRF_4	VRF_4

FIG. 4A

ON PE3 460

	Topology	CE5	CE6	CE7	CE8
	Full Mesh				
	Full Mesh			Both FM_2	
	Full Mesh				Both FM_3
	Central Service				Both CS_4 Server Import CS_4 Server_Import
	H&S	Export HS2_5_Hub Import HS2_5_Spoke	Export HS2_5_Spoke	Import HS2_5_Hub	Export HS2_5_Hub Import HS2_5_Spoke
VRF on PE3		VRF_1	VRF_2	VRF_3	VRF_4

FIG. 4B

FIG. 4A

FIG. 4B

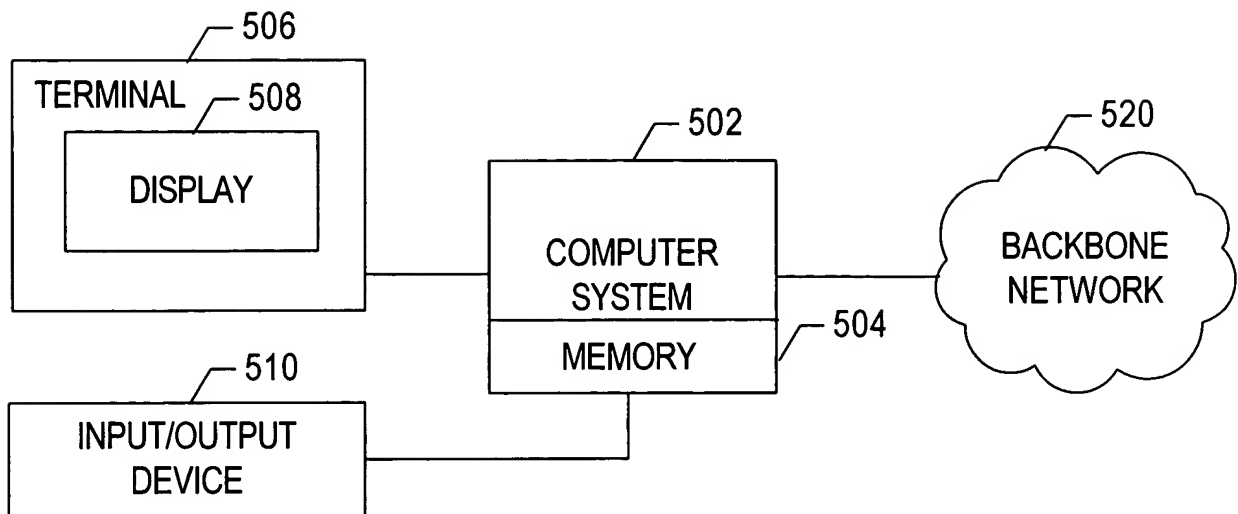


FIG. 5

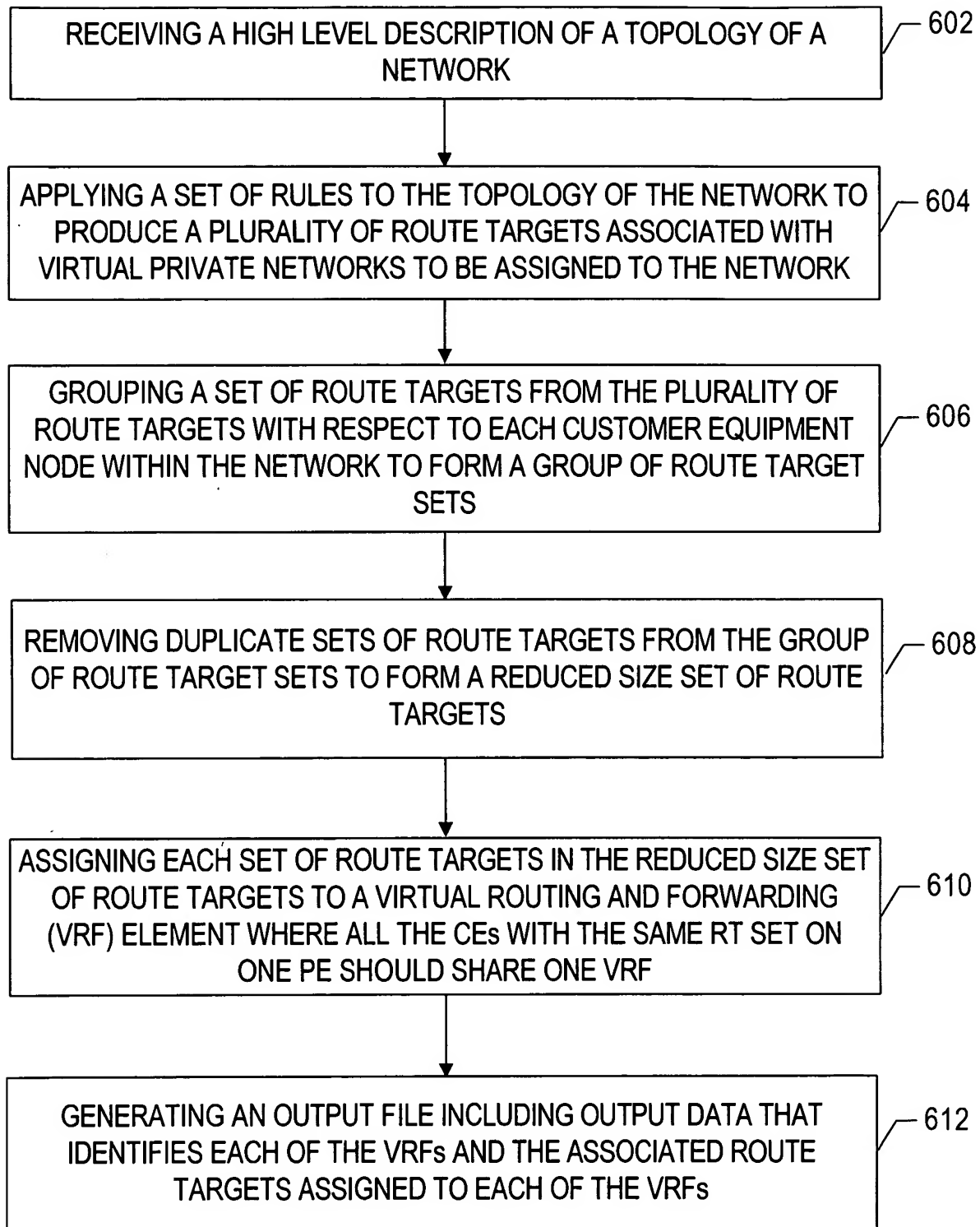


FIG. 6

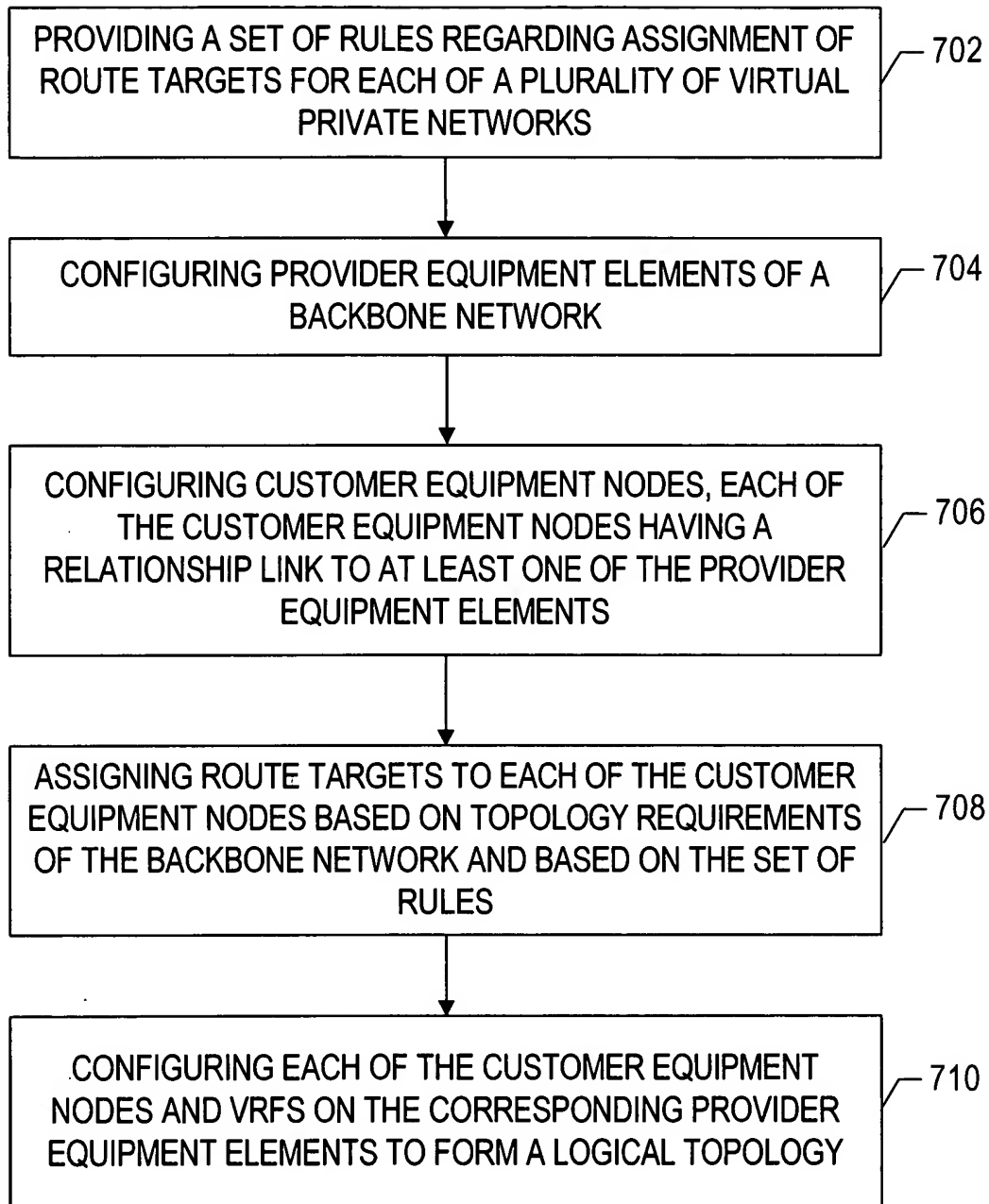


FIG. 7

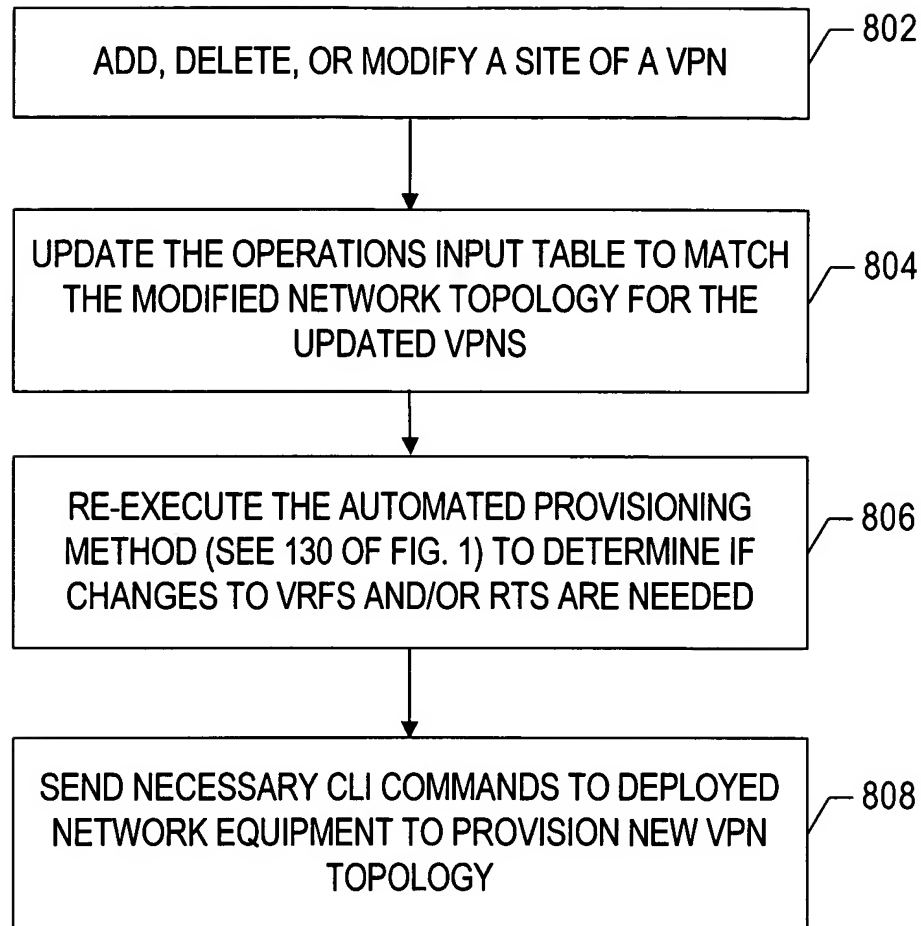


FIG. 8